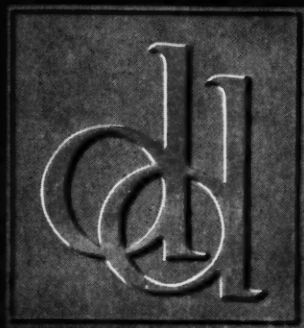


# THE DENTAL DIGEST

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AUGUST, 1937

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## About Our CONTRIBUTORS

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JEROME M. SCHWEITZER, D.D.S. and JOSEPH E. SCHAEFER, M.D., D.D.S. are familiar names to readers of this magazine.

EDWARD WOLFSON, D.D.S. (Georgetown University, 1933) published in THE DIGEST in June, 1935: INSERTION OF A FIXED BRIDGE IMMEDIATELY AFTER EXTRACTION.

WILLIAM J. HOGAN, D.D.S. (Baltimore College of Dental Surgery, 1904) contributed an article in the September, 1935 issue of this magazine: SWALLOWING OF REMOVABLE BRIDGE: REPORT OF A CASE. The present posthumous article, describing the splint constructed by Doctor Hogan, was promised to us by Doctor Hogan before his death. His widow, Mrs. Grace M. Hogan, in collaboration with James F. Barry, D.M.D. of Manchester, Connecticut, completed the preparation of the manuscript in fulfillment of Doctor Hogan's promise.

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# Special Operative Technique for the Impacted Cuspid

MENIFEE R. HOWARD, D. D. S., Denver

THE REMOVAL OF THE impacted cuspid presents one of the most difficult operative procedures in the oral cavity. This is because of the greater danger of injury to the adjacent teeth and the loss of bone structure which interferes with restorations or denture construction.

In the technique to be presented here for the removal of the cuspid impaction, adjacent bone structure, particularly on the isthmus or ridge, is conserved and the danger of injury to adjacent teeth is decreased. In the removal of teeth an attempted short-cut or a short incision which does not open the operative field sufficiently often leads to unnecessary postoperative complications.

Previous to the development of this technique, I removed most cuspid impactions from the lingual. Occasionally, however, it was desirable to remove the root-end from the labial surface. It seemed evident from these occasional cases that better results were obtained in this way, and gradually more operations were done by this combined labio-lingual method, which I use in most cases of cuspid impactions at the present time.

It has been observed that the position of about 75 per cent or more of all impacted cuspids extended in an oblique manner, with the crown portion on the lingual, and the root-end extending toward the labial surface, or even almost exposed on the labial surface, under the mucoperiosteum. It was further found that most impacted cuspids either had a pronounced crook at the end of the root or a blunt or hypercementosed root-end, either of which added to the difficulty of removal. Also it was found that when operating on the lingual alone, it was necessary to remove more bone than with the combined method. This technique, presented here, is used in my daily practice in more than 75 per cent of the cases of

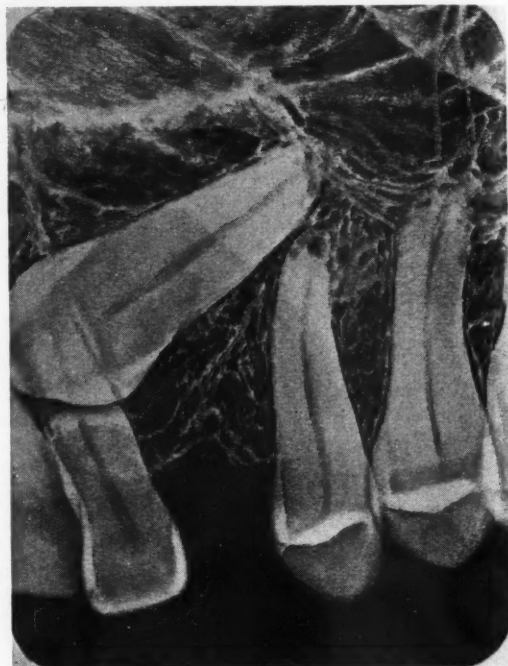


Fig. 1—A drawing made from a roentgenogram showing the type of impacted cuspid which can be satisfactorily removed by the technique shown here.

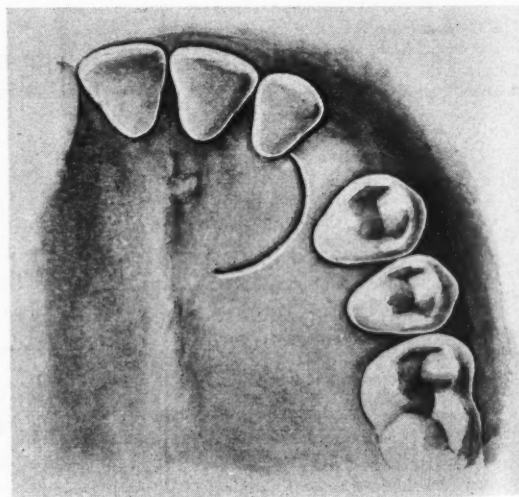


Fig. 2—The lingual incision.



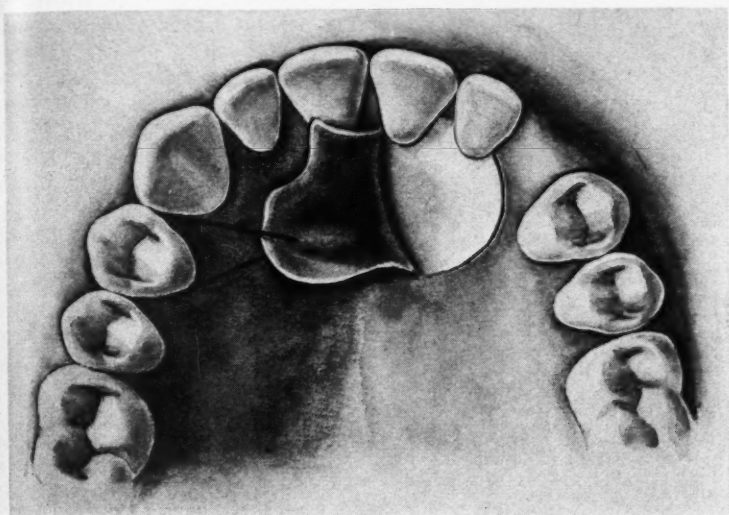


Fig. 3

Fig. 3—Tissue retracted on the lingual surface and the flap ligated around the first bicuspid on the opposite side.

Fig. 4—The overlying bone removed and the crown of the tooth exposed. The arrow indicates the isthmus of tissue that is preserved in this operation.

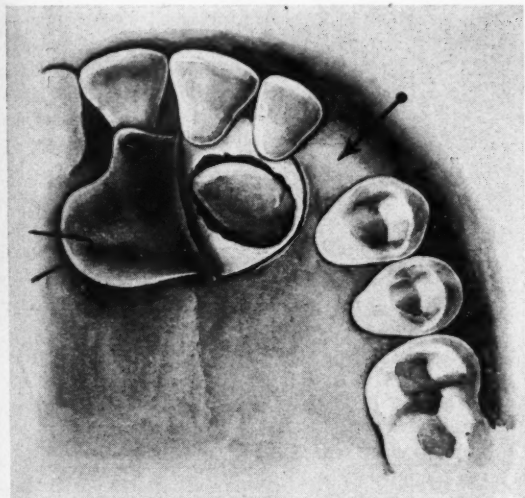


Fig. 4

Fig. 5—The labial incision of the tissue retracted. A Meade retractor is used in this step of the operative procedure.

Fig. 6—The root of the submerged tooth exposed and split. The arrow indicates the labial aspect of the isthmus of bone to be preserved.

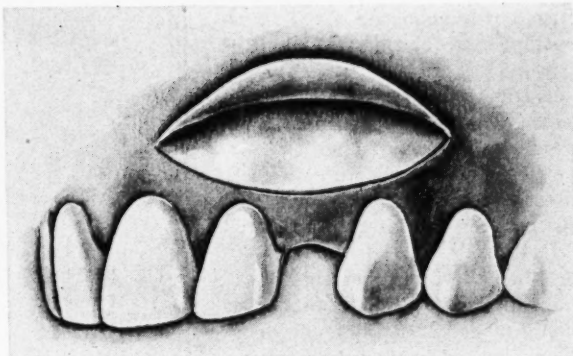


Fig. 5

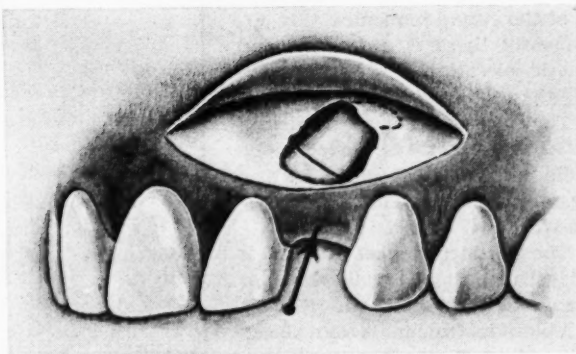


Fig. 6

impacted cuspids. The technique conserves more bone structure, especially on the ridge and causes less harm to the adjacent teeth from trauma or additional pressure.

### Technique

Roentgenograms are taken to aid in diagnosis. Three angles are desirable, one from the mesial, one straight, and one distal. All these angles should be

directed with a higher angulation of the cone than regular films of teeth in normal positions. These will show the location of the impacted cuspid and will be a guide for successful operat-

ing. The general position of the tooth is shown in Fig. 1.

Either procaine hydrochloride or nitrous-oxide oxygen may be used; the operative technique is the same. In the diagrams as shown, whether the deciduous tooth is present or missing there is only a slight variation in the technique.

1. An incision is made on the lingual, extending from the distolingual of the lateral in a semicircle toward the palate (Fig. 2).

2. The mucoperiosteum is then reflected from the incision toward the palate around the gingivae of the left lateral and central, being retracted as far as it will go toward the median line, but not extended enough to injure the nasopalatine nerve.

3. One suture is used to hold the flap away from the field of operation. The suture is extended around the first bicuspid of the opposite side. Silk sutures are used for this purpose (Fig. 3).

4. A thin amount of bone is usually over the crown of the tooth, and is removed with a chisel with mallet pressure (Fig. 4). Care should be used to protect the overlying bone over the ridge between the lateral and bicuspid teeth.

5. When the crown surface is reasonably well exposed, the labial incision is made. My double-end periosteotome is used to retract the mucoperiosteum, after which a retractor is used to expose the bone over the root-end of the cuspid impaction (Fig. 5). Frequently there is a fullness and some discoloration of the bone overlying the root-end.

6. The process is then removed with a chisel and mallet, which exposes the middle portion of the tooth, leaving only a part of the end of the root unexposed.

7. The Gardner number 52 chisel is used, with moderate regulated mallet pressure to split the tooth (Fig. 6).

8. A blunt instrument is then placed on the split portion of the crown and, with mallet pressure, by tapping gently, forces the crown through onto the lingual side. It is then removed with a pair of cotton pliers.

9. Occasionally it is desirable to use a pointed right and left elevator as a chisel to remove a small amount of process around the edges of the crown

Fig. 7—The instrument applied through the labial incision forcing the crown of the tooth through the lingual opening.

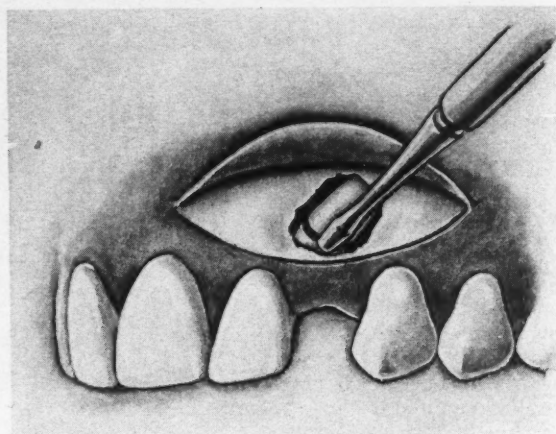


Fig. 8—The lingual incision sutured.

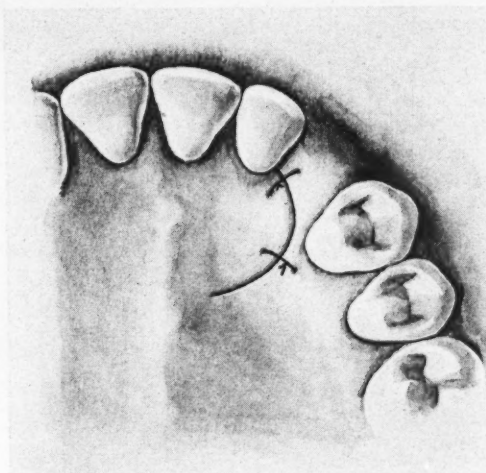
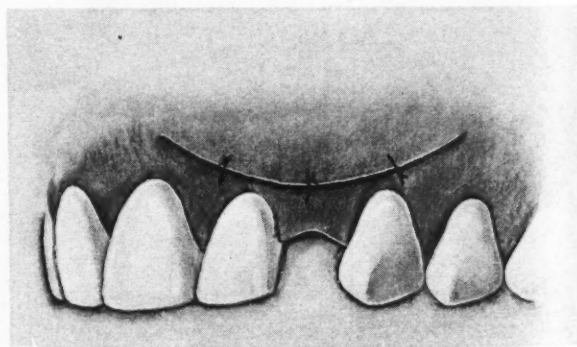


Fig. 9—The labial incision sutured.



in order to make the final release. Also the blunt instrument may be used to remove the remaining root by tapping in the same manner, forcing it into the socket, and effecting final delivery on the lingual side (Fig. 7).

10. After the crown and root are re-

moved, any rough, irregular edges of bone are smoothed, and any loose spicules of process are removed which may not have been removed previously. This is done by the use of a curet, and includes inspection of all recesses of the soft tissues. Occasion-

ally a bone file may be used as an aid in smoothing the bone. After careful inspection of the field of operation to see that no loose spicules remain, it is desirable to see that a good blood clot fills the socket.

11. The flap is closed over the operative field by sutures of number 7 silk. Use suture first on the lingual, placing at the middle or most distal part of the incision, close to the ridge. A suture is also placed distal to the lateral, as in Fig. 8. Three sutures are placed on the labial, evenly distributed over the incision as shown in the diagram (Fig. 9).

12. The sutures are removed in from two to five days, usually two days, with pointed, fine serrated scissors, the same kind as is used for other operative purposes.

#### Comment

If care is exercised in the operative technique to produce little or no trauma, and sharp cutting chisels are used in removing bone, the healing will take place by first intention. Seldom does the blood clot break down, necessitating packing. Usually the patient may be dismissed from further treatment after a few days, although it is usually advisable to see him, if possible, for a longer period than might actually be considered necessary.

#### Summary of Advantages

The technique described offers the following specific advantages:

1. Less postoperative pain and soreness.
2. Less dilation or spreading and burnishing of adjacent bone tissue.
3. Less trauma or injury to adjacent teeth.
4. Conservation of the isthmus or

ridge of bone, making possible the longer retention of adjacent teeth, and aiding in restorations.

5. In case of an edentulous mouth this technique for the removal of the

cuspid impaction is especially desirable because it will permit of the conservation of the ridge, and makes possible better denture construction.

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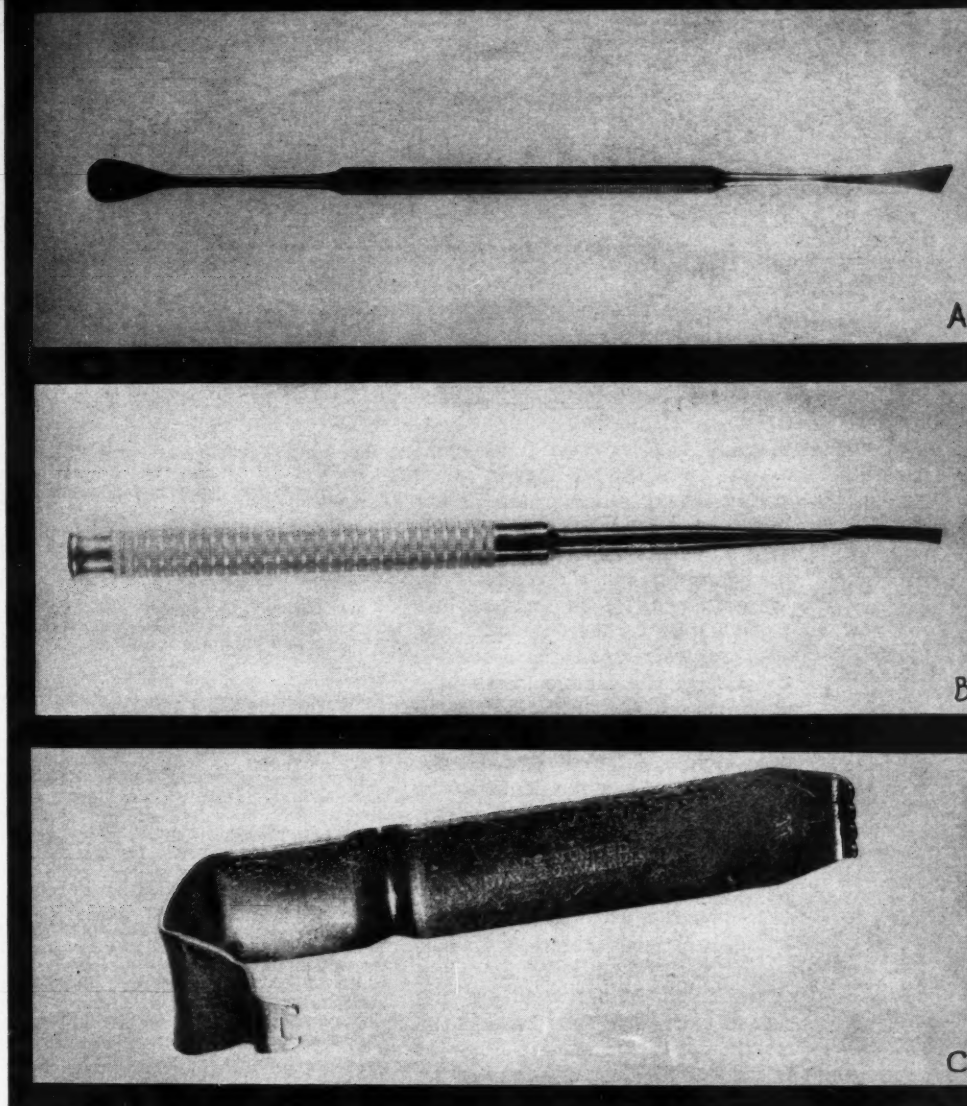


Fig. 10—Instruments used in operative procedure. A, Howard double-end periosteotome; B, Gardner, number 52 chisel; C, Meade retractor.



# Raising the Bite in Extreme Cases

JEROME M. SCHWEITZER, D.D.S., New York

THE OPERATION OF RAISING the bite becomes more difficult as one proceeds from the edentulous mouth to the mouth in which there is a full complement of natural teeth. In the edentulous mouth, the bite may be raised more or less arbitrarily, according to the operator's judgment.

In all cases it is advisable to take roentgenograms of the condyles, for they often aid in determining how much to raise the bite. Over-raising in edentulous cases produces a clicking sound, and causes discomfort to the patient.

In full denture construction, it is necessary to obtain a good centric registration. When the dentures are complete, the protrusive and lateral registrations as well as the centric registration should be checked for corrections.

Occasionally, when cases are over-raised, it becomes extremely difficult to change the direction of movement of the mandible, particularly in the case of elderly patients, because the movements of the mandible, guided by the muscles of mastication and the accessory muscles, have for years functioned in a given way. In these cases it is essential that the bite be lowered until the dentures feel comfortable and the function is good. To elderly patients, these two factors are more important than esthetics. Raising the bite for younger patients, however, makes such a vast improvement in their appearance, that they readily adopt the new dentures.

Proceeding to the most difficult of all bite-raising cases, one is faced with a case of closure with all the natural teeth present. The difficulty here is that no arbitrary method will suffice. The cusps of the natural teeth are present, and they must be given serious consideration. Ordinarily, every tooth must have some form of restoration, and with so many replacements, it is rather confusing to know where to begin. It is well to study condition in advance.

730 Fifth Avenue.

## Report of a Case

Figs. 1 and 2—The patient, aged 50, had a severe sinus disorder. There was a remarkable absence of decay from all but the upper anterior teeth, where large mesial and distal cavities were present. These had apparently been caused by severe mechanical and chemical abrasion. The posterior teeth, upper and lower, were abraded on the morsal surfaces. The mandible had rotated slightly to the left. Fig. 1 shows a full face view of the unsightly condition of the teeth at the start of the case. Fig. 2 is a close-up of the teeth at the start.

Fig. 3—Occlusal and incisal view of models at start of reconstruction. The lower anteriors were abraded on the incisal edges, the upper cuspids were severely abraded on the lingual surfaces, and the upper central and lateral incisors were so badly abraded on all surfaces that nearly two thirds of the teeth had been destroyed. There was no evidence of cervical erosion or abrasion. The upper arch had spread so much that in centric occlusion, the upper posterior teeth extended too far laterally. This was evidence of a closure.

Figs. 4, 5, 6, and 7—Inasmuch as the buccal surfaces of the upper and lower posterior teeth appeared normal in size, the only way that the bite could have closed was through the abrasion on the biting surfaces starting first. This would account for the closure of 1 or 2 mm. which, in turn, would account for the closure in the anterior region. Thus, if the occlusal surfaces of both the upper and lower bicuspid and molars were built up, without adding to the height of the buccal surfaces, the slight opening needed in order to jacket the upper anterior teeth would be obtained. This would at the same time take care of the deep morsal chemical erosion cavities. With little grinding the lower jaw could be easily balanced to a 4 inch occlusal segment.

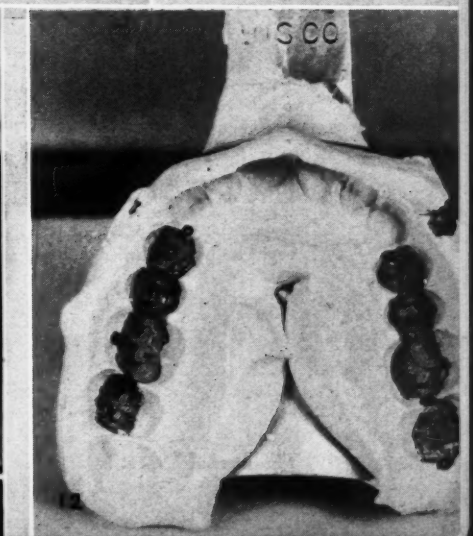
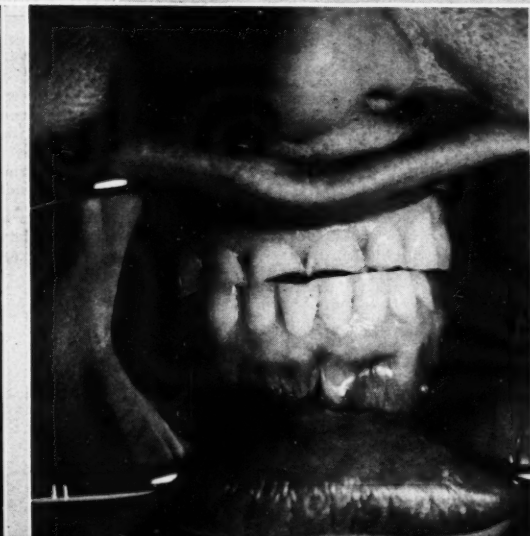
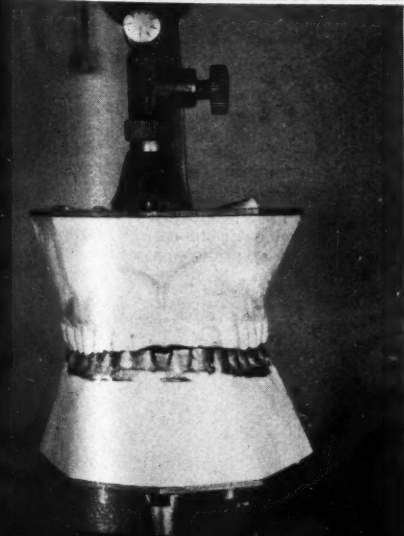
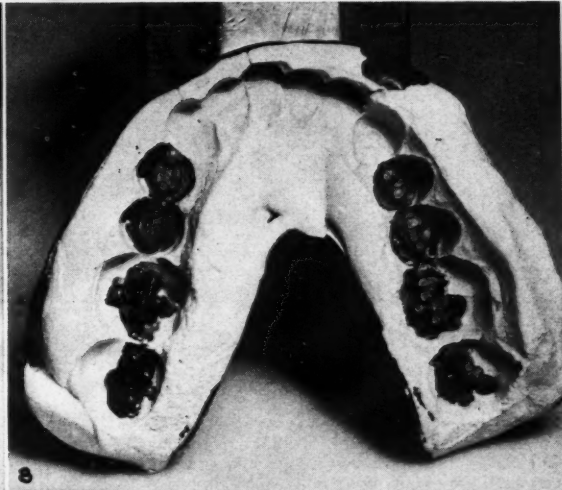
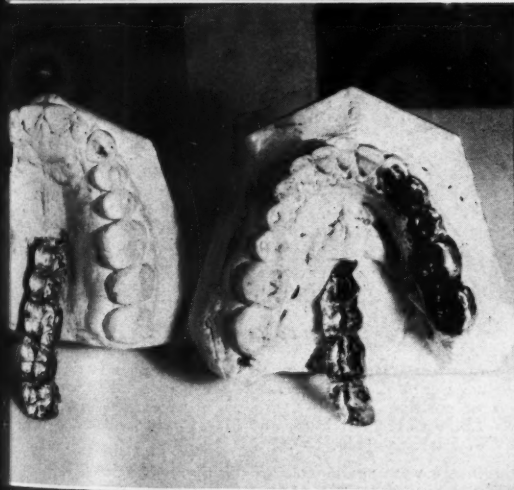
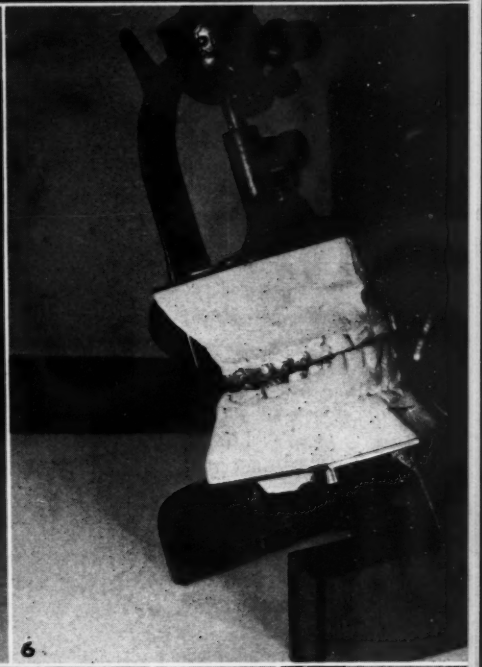
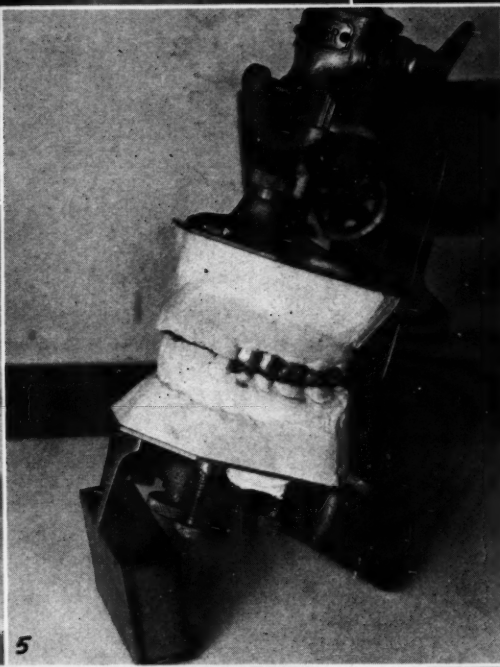
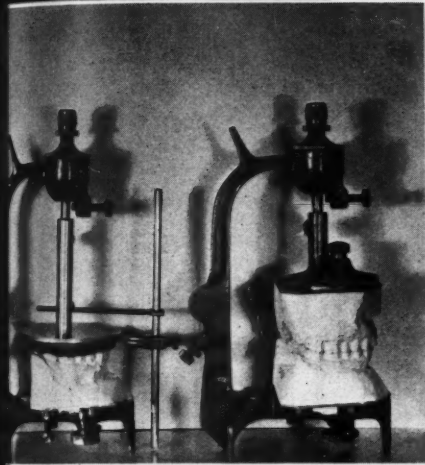
A series of roentgenograms was taken and models of the maxilla and mandible were made. These models were mounted on the balancer by means of a check-bite transfer. Fig. 4 shows the method of mounting the models on the instrument by means of a special occlusal disc which fits directly beneath the 4 inch disc of the instrument. Fig. 5 shows the bite splints made of tin foil and wax for diagnostic purposes. Note the amount of anterior opening. These splints are tried in the mouth. Fig. 6 shows the left side of Fig. 5, and Fig. 7 shows the occlusal view of the splints used for diagnosis. The occlusal splints were made to determine how far the bite would have to be opened.

Figs. 8, 9, 10, and 11—The cavities on the occlusal surfaces of the lower four bicuspid and four molars were prepared and inlay patterns were taken. They were cast in durocast gold, a metal strong enough to withstand the bite. The inlays having flat occlusal surfaces were built to the height of the buccal and lingual cusps, but no higher. When inserted, they would hold the bite open to any degree desired. The left second molar inlays were prepared first and these inlays were temporarily inserted. With these two occlusal inlays in position, the patient was instructed to chew in her own occlusion by means of articulating paper. In this manner, the contacting surface of the inlays was reduced until the bite in the incisal region was held open anteriorly to a height slightly more than that desired in the finished case.

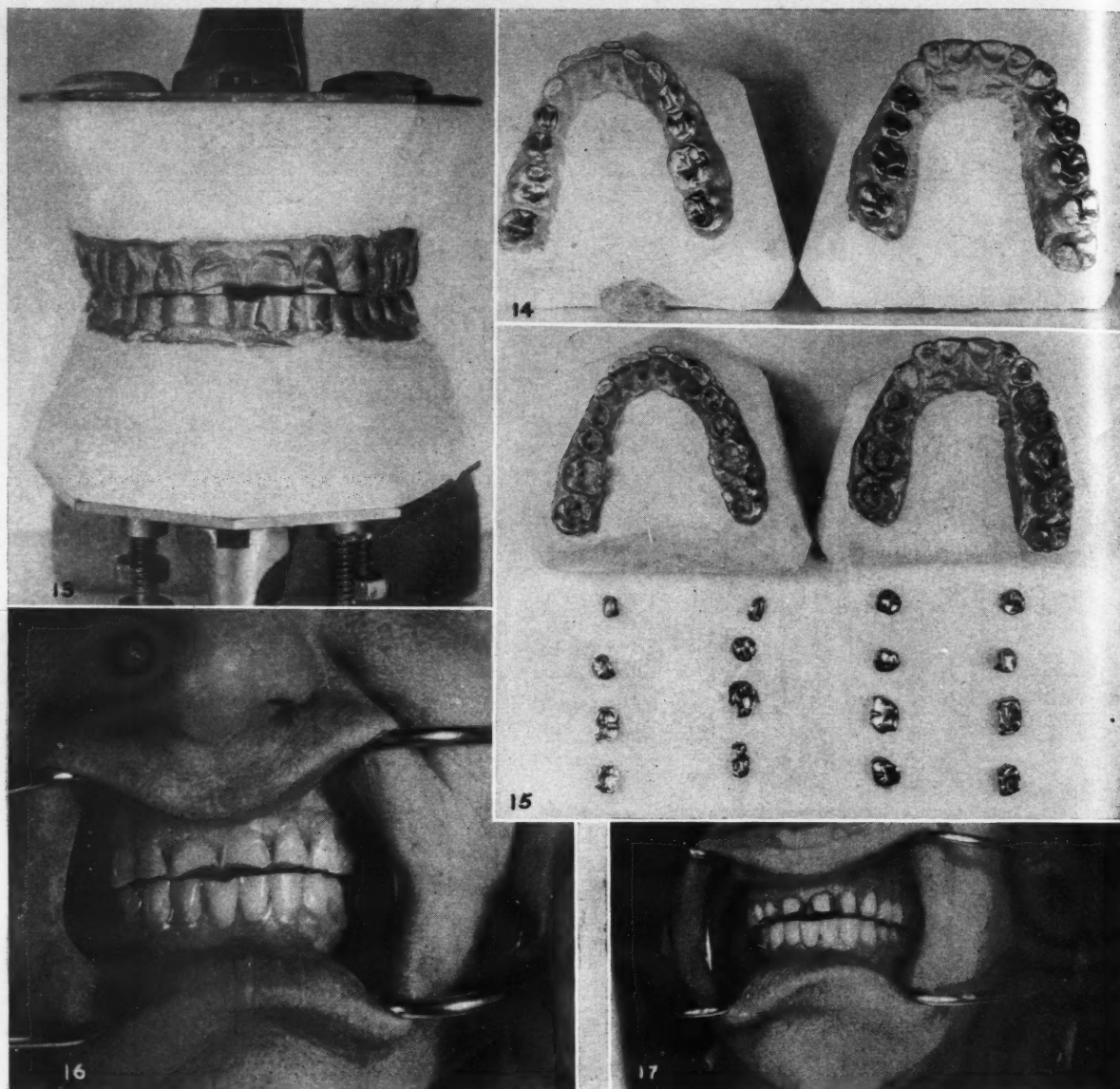
The two first molar occlusal inlays were then prepared and with these in position and with articulating paper in the mouth, the patient was told to grind until the two second molar occlusal inlays were contacted. By this time the patient was biting evenly on the four molar inlays. With these four molar inlays in position, the two second bicuspid patterns were taken. After the second bicuspid inlays were cast and temporarily inserted in the teeth, they were ground, articulating paper being used, until the molar inlays began to touch. The same procedure was followed with the two first bicuspid inlays, until all the occlusal surfaces of all the posterior teeth in the mandible were covered with inlays which the patient had ground in, at the desired anterior opening. With these eight inlays in position a plaster impression of the mandible was taken without the plaster reaching the cervical margin of the teeth, because only the occlusal two-thirds were necessary (Fig. 8). After waxing the inside of the inlays, the impression was poured in metal, and, with the inlays in position, and by means of a wax bite taken in the mouth, the lower model was substituted for the master model on the balancer (Figs. 9 and 10).

Without destroying the height of the bite, the occlusal anatomy was somewhat restored by carving shallow grooves in the inlays. The inlays were then placed in position on the lower teeth (Fig. 11) but were not cemented in. (Note the amount of opening established in the anterior region.) It was evident at this point that the bite would have to be opened slightly more. This would be accomplished by occlusal inlays in the upper bicuspid and molar teeth.

(Please see additional illustrations on pages 380-381)







Figs. 12, 13, 14, and 15—In taking molar patterns, the patient was asked to close the bite to the desired anterior opening while the wax was still soft. The molar inlays were cast, and with the lower inlays and the two upper second molar inlays in position, the patient was told to grind in the bite, until the correct opening in the anterior region was established. This opening was slightly greater than the one established by means of the lower inlays. The first molar inlays were temporarily inserted in the mouth, and spotground by means of articulating paper, until the second molar inlays were contacted.

The two second bicusps were prepared for occlusal inlays. These were cast and inserted and the patient was again instructed to spotgrind. The same procedure was followed with the first bicuspid inlays, and, when all the upper posterior inlays contacted all the lower posterior inlays, the desired opening anteriorly was reached.

At this point, right and left condyle pictures were taken, showing that the condyles had been moved only slightly.

With the upper inlays in position, a plaster impression of the maxillary teeth was taken, the inside of the inlay surfaces waxed, and a model poured in metal. Fig. 12 shows this step just before pouring.

The upper master model was removed from the balancer, and replaced by the upper working metal model which contained the

inlays mounted to the lower working model with the inlays in position (Fig. 13).

The mandibular inlays were transferred from the mouth to their positions on the lower cast, and by means of a wax bite, taken with all the inlays in position (Fig. 14), grooves were carved in the upper inlays. These would not lower the bite, but would restore some of the lost anatomy (Fig. 15).<sup>1</sup>

Fig. 16—The inlays were again tried in the mouth to check the occlusion and the patient's right and left lateral and protrusive movements.

The cavity preparations were well washed with warm water, cleaned with pure alcohol, and then wiped with chloroform and rosin. Starting with the lower right posterior molars and proceeding forward, then the lower left posterior molars, proceeding forward also, the inlays were cemented in two at a time. Beginning on the right side of the maxilla, the same procedure was followed until all the inlays were cemented into position. This completed, impressions of the maxilla and mandible were taken with an elastic impression material, and poured in artificial stone for record. Elastic impression.

Fig. 17—The lower anterior teeth have been trued up, and the upper anterior teeth have been prepared for jacket crowns. Starting with the upper right cuspid two teeth were prepared at a time.



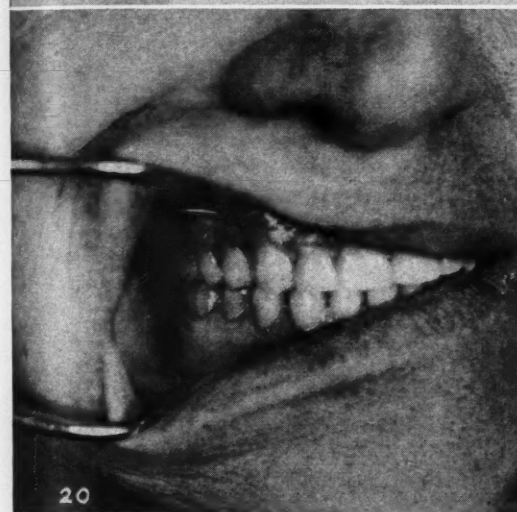
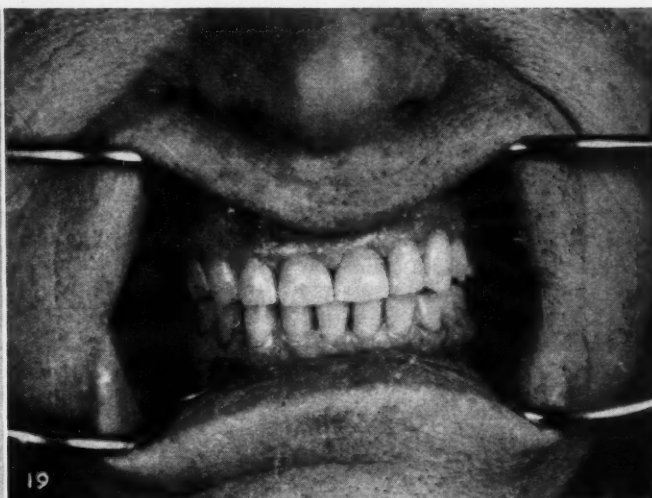
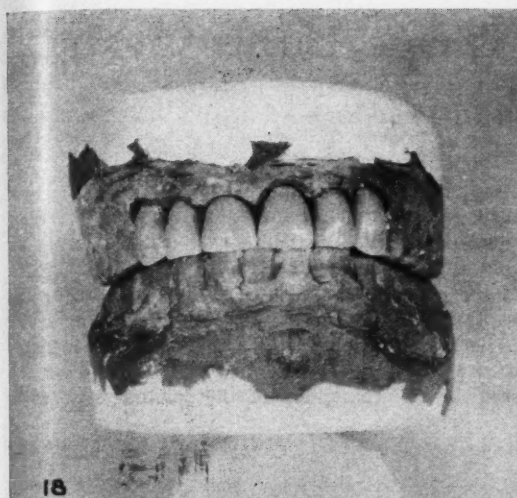
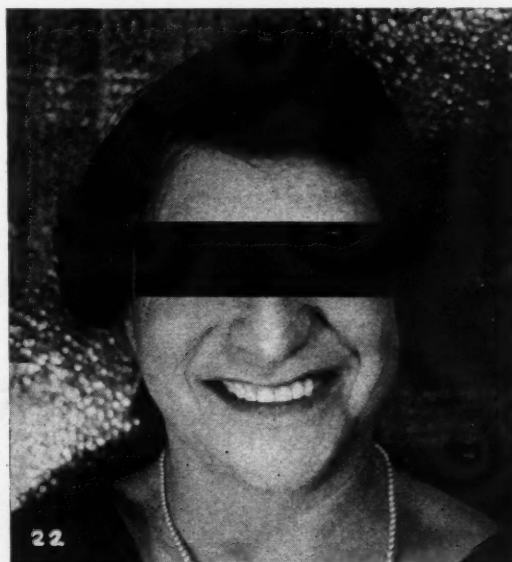


Fig. 18—The six jacket crowns just before cementing them into position. Small metallic copings were made for each dye, and with these metallic copings in place on the six stumps in the mouth, plaster impressions of the upper and lower jaws were taken, and the six anterior jacket crowns were baked.

Figs. 19, 20, and 21—Several applications of a chloroform and rosin preparation were put on the stumps and the jacket crowns were cemented into position. The entire case was spotground in the mouth by means of carborundum paper, and the margins of the occlusal inlays were further finished. Fig. 19 shows the jacket crowns cemented into place, with an anterior view of the completed case. Fig. 20 shows the articulation on the right side of the completed case. Note the cusp relationship. Fig. 21 shows the articulation on the left side and the cusp relationship in the completed case.

Fig. 22—New impressions of the finished case were taken with the elastic impression material, and a new series of roentgenograms was taken of the entire mouth. When the case was completed the full face photograph shown here was taken.



# Permanent Drainage of Large Bone Cysts

JOSEPH E. SCHAEFER, M.D., D.D.S., Chicago

A CYST IS DEFINED as a bladder; an abnormal sac containing gas, fluid, or a semisolid material. If this simple concept, that a cyst means a bladder, is kept in mind, there will be no difficulty in understanding the bone cysts that occur about the jaws. There are two types: radicular, or the so-called

infection cysts, and dentigerous cysts. Again, if the bladder concept is kept in mind, one can then understand the simple pathologic nature of the cyst and more clearly interpret the increase in size and destructive tendencies. A cyst is a sac lined with epithelium which is supported by a

varying amount of connective tissue. The radicular cyst usually occurs at the apex of a pulpless tooth and is occasioned, in my opinion, by an inflammatory reaction in the bone around such a root-end. The inflammatory reaction in the bone causes resorption of the calcium salts with



Fig. 1—Early small infection cyst. The symmetrical outline cast by the roentgen ray will be noted.

Fig. 2 (Case 1)—Note extensive destruction of mandible. Dentigerous cyst.

Fig. 3 (Case 1)—Note displaced bicuspid tooth; probably a dentigerous cyst. Outline of cyst with missing unerupted tooth. Roentgenogram gives anteroposterior dimension of cyst but does not give its medial-lateral dimension. The dentigerous cyst clinically seems to develop from the tooth sac. (Recently the author removed an unerupted upper cuspid, the crown of which was enclosed in a small cyst. This suggested that its origin was from an enlarged dental sac. The cyst was filled with the typical amber-colored fluid containing cholesterol crystals.)

Fig. 4 (Case 1)—Roentgenogram taken vertically through the mandible or at right angles to Fig. 3, showing buccal-lingual extension of cyst. Note great bulging of cyst buccally with a thinning of cortical bone to thinness of an egg shell. It is this thinning of the cortical bone which may easily fracture or crackle under pressure, giving the feeling of crepitus to the palpating finger.

the formation of a potential cavity filled with granulation tissue. This may become lined with epithelium and form a cyst.

#### Origin of Epithelial Lining

I do not wish to go into endless speculation as to how the epithelium comes to line such a cavity, or to speculate on the origin of the epithelium within the bone, serving the purposes of cyst formation. It will suffice that

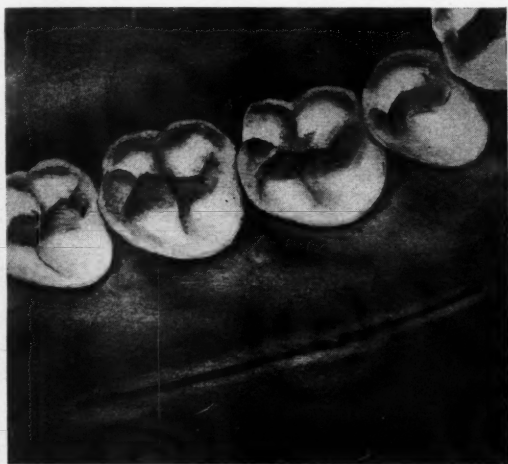


Fig. 5



Fig. 6

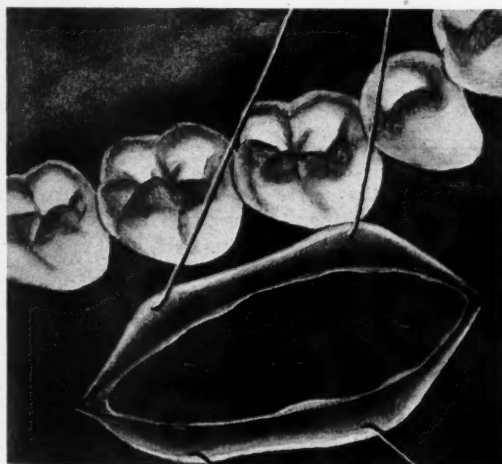


Fig. 7

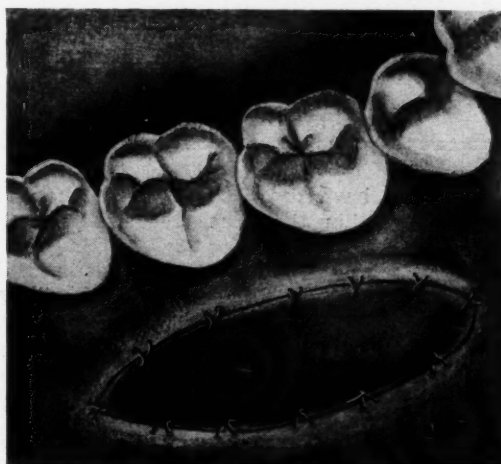


Fig. 8

Fig. 5—Incision through mucoperiosteum. Figs. 5 through 11 have been drawn from a model showing the permanent teeth. Case report describes a deciduous dentition.

Fig. 6—Bone exposed and cyst wall being excised.

Fig. 7—Soft tissues retracted and window cut into cyst cavity.

Fig. 8—Mucoperiosteum and lining of cyst sutured together.



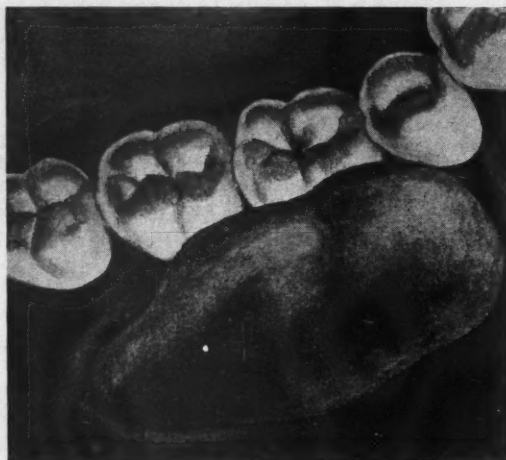


Fig. 9

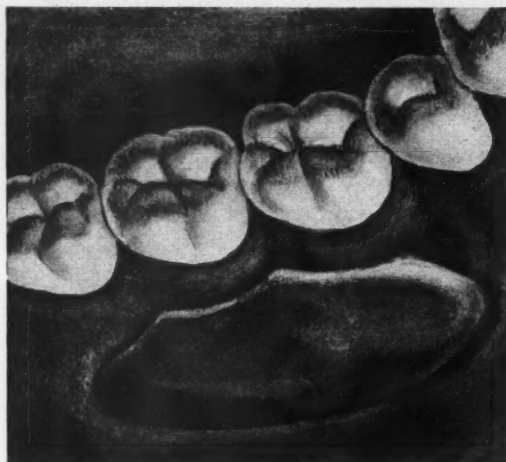


Fig. 11

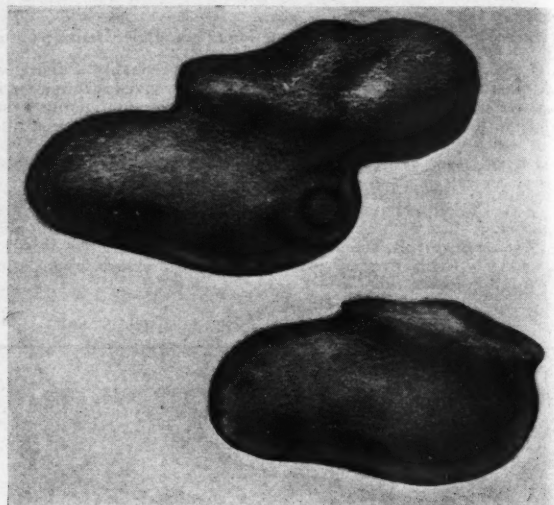


Fig. 10

Fig. 9—Impression being taken for modeling compound core.

Fig. 10—Modeling compound core before and after trimming.

Fig. 11—Modeling compound core *in situ*, maintaining permanent drainage of the cyst cavity.

dental histologists have described "epithelial rests" within the bone structure around the teeth which may be the source of the epithelium in a cyst.

#### Explanation of Globular Form

Inasmuch as a sphere contains the greatest cubic content, the globular form may be Nature's process of keeping pressure atrophy of the bone, produced by the cyst, down to a minimum. The explanation of the globular, symmetrical form may be some principle of hydrostatics relative to fluids under pressure. Either explanation is a satisfactory reason for the globular form of a cyst; and the symmetrical shadow cast by the cyst makes it defi-

nately diagnostic in character in the roentgenogram (Fig. 1).

#### Harmfulness of Cyst

A cyst is harmful because it tends to enlarge, producing pressure atrophy to the bone. The moment this pressure is removed by the permanent drainage of the cyst, bone repair follows until the cyst lining is gradually pushed out and becomes continuous with the mucous membrane of the mouth.

It is essential to know that a cyst must be cleaned out of the bone following tooth extraction, for if such a cyst is left planted in the bone, it will increase in size and may cause extensive destruction of the jawbone. The

pressure atrophy on the bone causes an increase in the size of the cyst. The bigger the cyst, the more pressure atrophy; hence there is a vicious circle.

Small cysts which can be easily enucleated are not under discussion. The cysts that have grown to enormous dimensions, such as is seen in Fig. 2, destroying a great part of the body and the ramus of the mandible are of interest here. The permanent drainage of such cysts is rather a simple procedure; whereas the attempt to resect such cysts is almost certain to end in failure.

#### Report of Case

A boy, aged 6 years, presented with

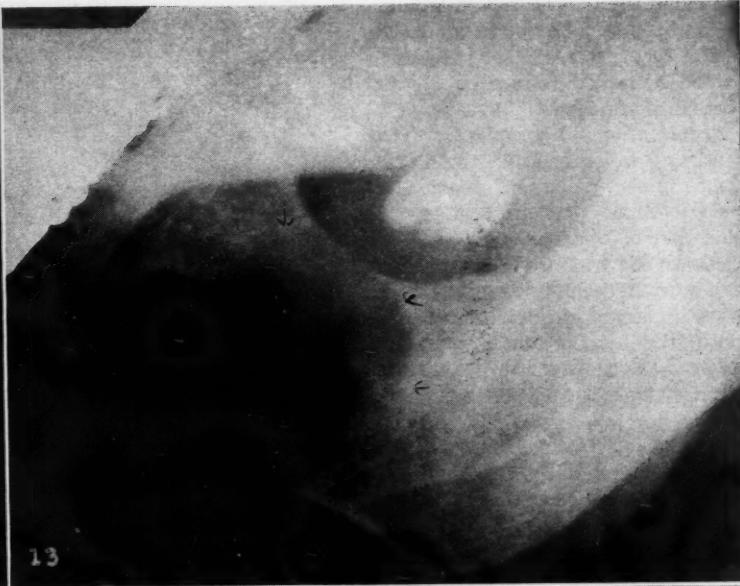


Fig. 12 (Case 1)—Complete repair of mandible. Note restoration of mandibular outline.

Fig. 13 (Case 2)—Large cyst of lower jaw, probably of root origin, in which the tooth was extracted but the early sac was not removed at attempted enucleation. Integrity of bone is endangered.

Fig. 14 (Case 2)—Note complete regeneration of bone following permanent drainage.

Fig. 15 (Case 3)—The patient presented with a painless swelling

of the face. A roentgenogram taken January 13, 1936, revealed an extensive dentigerous cyst around the lower left third molar. Note almost complete destruction of the ramus of the mandible, including the coronoid process. The slightest blow would have produced a fracture. Permanent drainage was maintained by a modeling compound obturator. The advantage of a modeling compound obturator is that it can be easily trimmed or remade any time repair of the cyst has advanced sufficiently to require it.

a bulging tumorous mass on the left side of his face in the lower left cuspid region. The protrusion of the tumor caused a marked asymmetry of that portion of the face.

**Examination**—Inspection revealed a missing lower bicuspid tooth. The mass, under palpation, seemed to yield to finger pressure and gave a sensation of crepitus. This was due either to the fracture of a thin bone wall or to the yielding under pressure. These observations: the missing tooth, the bulging tumor, and the crepitus are sufficient to the trained person to make the diagnosis of a bone cyst.

**Roentgenographic Examination**—

The roentgenogram (Figs. 3 and 4) was merely used as confirmative evidence and also to give one a better idea as to the three dimensional size of the cyst. This three dimensional problem must always be kept in mind in interpreting roentgenograms; the three dimensions of the cyst can be demonstrated by taking roentgenograms at right angles to one another.

**Treatment**—By local anesthesia an incision was made through the mucoperiosteum, exposing the bone. Excision was done of a fairly large section of bone to create a window in the cyst. One may then either suture the lining of the cyst to the mucous membrane, or pack the cyst open for several days, until the inflammatory reaction and soreness have subsided. An obturator<sup>1</sup> is then made of modeling compound which the patient can remove daily to irrigate the cavity. It is worn until the cyst has become

<sup>1</sup>Bovik, E. G.: Healing of Cysts Following the Partsch or Open Operation (Using Special Obturator), *THE DENTAL DIGEST*, 41:38 (February) 1935.

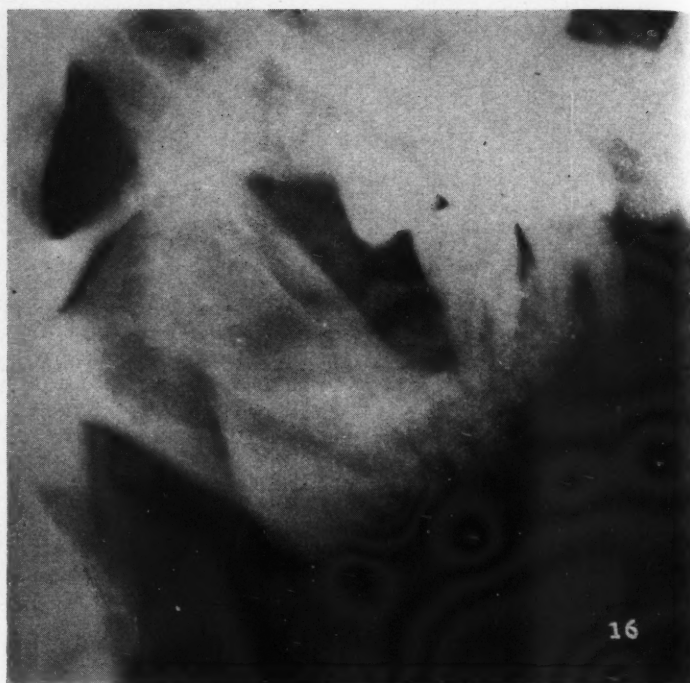


Fig. 16 (Case 3)—August 10, 1936. Note complete regeneration of the ramus in eight months' time following permanent drainage of cyst. The time element is recorded by the roentgenograms.

eradicated by the bone repair that follows the permanent drainage (Figs. 5 through 11 show the technique.)

**Postoperative Result**—Complete repair of the mandible occurred with restoration of the original mandibular outline (Fig. 12). Wolff's law in reference to bone states in essence that a bone has its form and density as a result of the stress and strain applied to it. In other words, the skeletal structure is of the type that it is because of functional demands. This restoration of the mandible to its original outline and contour is an expression of Wolff's law.

**Conclusion**

Large cysts of the mandible are self-corrective under permanent drainage. The drainage of the cyst stops the pressure atrophy of the bone. The natural reparative processes inherent in any tissue is a biologic phenomenon. In the case of a bone cyst, this comes into play the moment the mechanical factors producing the pressure atrophy are removed. The destructive process in the bone is replaced by a constructive or a reparative one.

55 East Washington Street.



# The Use of an Automatic Mallet in Amalgam Restorations

EDWARD WOLFSON, D.D.S., Jersey City

NOT EVERY DENTAL patient can afford either gold foil restorations or inlays, but almost every patient can afford good amalgam restorations which can be produced by the average operator at fees commensurate with the time element involved.

No restoration regardless of the material used in making it is ever any better than the preparation of the cavity in which it is placed, so that the first consideration in attempting good amalgam restorations would necessarily be sound cavity preparation. Particularly, in the technique to be described, wherein an automatic mallet is used to condense and pack the amalgam, unsupported enamel rods would not last long. Adequate retention should be provided. In many instances sufficient retention is provided in the cavity preparation, but many failures are due to failure to fill the undercuts during the packing process. Failure, either to step each bit of amalgam as it is added to the cavity or insufficient pressure in packing may be responsible for insufficient retention. To obviate this difficulty and to insure complete packing and filling of every part of the cavity, as well as to produce a highly condensed metallic restoration, a packing instrument which will exert pressure beyond the average finger pressure or which can be obtained from ordinary instruments, is indicated. Such an instrument is an automatic mallet.

## Points Prepared for Mallet

Points for the mallet which have faces large enough for amalgam restorations are not obtainable on the market, but it is comparatively simple to construct several of these from gold foil pluggers, which, because of wear, have been discarded. Two sizes are satisfactory, one fairly small, the other fairly large.

The best method of preparing these

points is to select favorite hand amalgam instruments and measure the faces of the working points. It is then a simple matter to cut the old points across the shank at the desired diameter, preferably with a safe-sided disc. The cut edges may then be rounded and polished, and if desired, serrated, with a disc. Preferences have been expressed for both smooth-faced and serrated points, but after considerable use I have failed to note any particular difference or advantage to either.

## Technique

1. When packing class 1 and class 2 cavities, it is best to begin with a fairly soft mix of amalgam and pack this into all parts of the cavity until about one-half is filled. This preparatory packing can be done with a small

plugger, the face of which measures not more than 1 mm. The plugger is inserted in the reverse action side of the automatic mallet.

2. Without changing instruments, the forward action is used with a point, the face of which measures not more than 1.5 mm. Even if the mix is fairly dry, a great deal will be packed down into the deeper parts of the cavity. The building up should continue, first, by adding more amalgam of a drier consistency, tamping it down to place and stepping it into all parts of the cavity with the smaller plugger point, and then, packing and condensing with the larger point.

3. The cavity should be filled to excess. When all margins are covered, the filling is well malletted.

4. As the excess mercury rises to the surface, it should be burnished away and drier amalgam added and packed with the mallet. Ample time should be allowed before removing the matrix, although this time will be shorter than usual.

5. That the restoration will be more highly condensed will be readily noted by the resistance offered to the carving instruments in shaping the restoration to anatomic form.

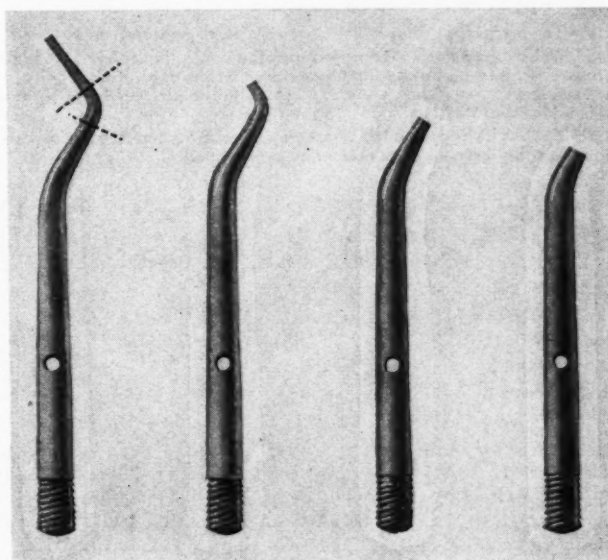


Fig. 1—Method of producing plugger points for amalgam use by cutting off old or discarded gold foil points at the desired diameter.

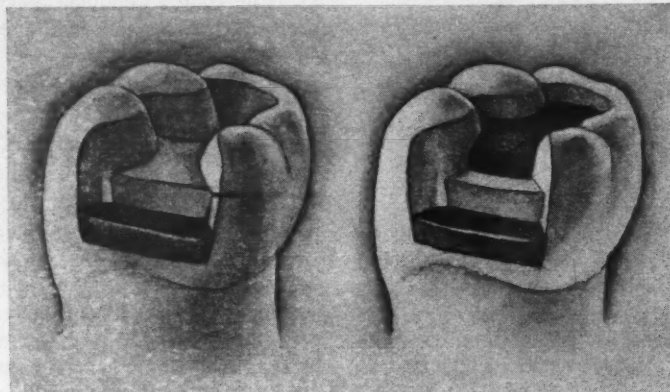


Fig. 2

Fig. 3

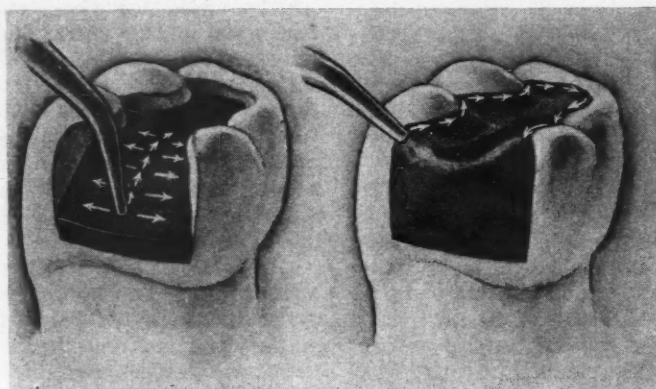


Fig. 4

Fig. 5

Fig. 2—Amalgam should be packed to place, filling all undercuts with hand pressure. A fairly "sloppy" mix of amalgam is indicated.

Fig. 3—The occlusal portion is built up with hand pressure.

Fig. 4—Drier amalgam is now added and the mallet is used in packing for the first time. The point is well stepped over all portions of the cavity, the softer amalgam is burnished away as it comes to the surface, and drier amalgam is added and malleted.

Fig. 5—The cavity is now filled to excess and well malleted, especially over the margins, but care must be taken not to over-mallet.

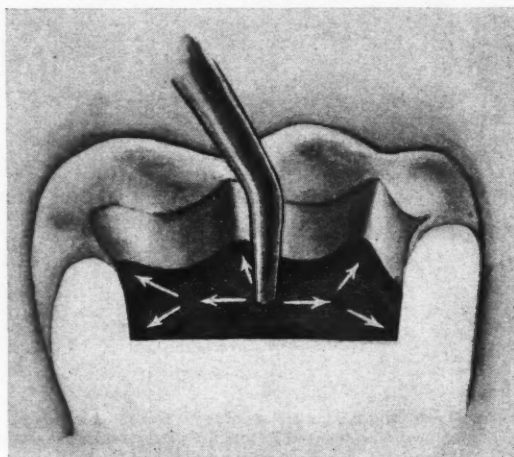


Fig. 6 — Method of stepping the plugger point from the center to the margins. This allows the amalgam to be flowed in to the retention points and then to be condensed.

## Use of Mallet in Gingival Cavities

The mallet is of considerable advantage in packing gingival cavities. Inasmuch as many of these cavities are comparatively shallow and retention sometimes becomes a problem, what provision is made for retention is certain to be filled by the driving action of the plugger point and mallet. The technique is essentially the same as for other types of cavities.

### Summary and Precautions

1. Make certain that except in small cavities a small quantity of "sloppy" mix of amalgam is introduced first and burnished to all parts of the cavity. As drier amalgam is added the action of the mallet will bring the excess mercury to the surface.

2. All cavities should be filled to excess before the mallet is applied directly over the margins. This not only insures condensation of the amalgam at the margins, but also prevents fracture of the enamel rods.

3. Wherever matrix bands and retainers are used, be sure that they are on tight and there is no play in them. Should this occur, the amalgam will be packed so tightly against the adjacent tooth that difficulty will be encountered in removing the matrix band.

4. Where large cavities are being restored, start the malleting in the center and step toward the margins. If this is not done and packing is begun immediately at one of the margins, any amalgam that is present in another part of the cavity and unpacked, will be knocked out of the cavity.

5. Do not over-mallet. After the excess mercury has risen to the surface and has been burnished away the amalgam begins to set. Continued application of the mallet after the setting has begun will cause a fracture even if the matrix is still in position.

111 Sanford Place.

# Comments of Participating Dentists in Patient Study\*

22. My impressions of the survey lead me to the following conclusion:

A detailed study of this survey reveals the fact that the patients are fairly well-informed as to the value of dental services. In view of this it is surprising that the relatively few dentists in this country are not over crowded with work. Patients seem to have the information but neglect to act on it. This is not surprising when dentists, physicians, and nurses are often the most flagrant violators of health laws. If it were not for outward appearances there would be still less dentistry; therefore, I believe that until we arrive at some compulsory system whereby the children of our schools will have to have their teeth cared for to the same degree that they are having their other ills treated, and employers insist on their employees having healthy mouths as well as healthy bodies, we will not begin to arrive at the solution of this important problem.—N. E. UELMEN, D.D.S., Milwaukee.

23. The dental profession should be grateful for "Public Health Surveys," such as the one recently conducted by the Oral Hygiene Publications. All the questions asked were those frequently confronting the average practitioner. The answers to this questionnaire dealt primarily with the patient's ability to translate dental nomenclature.

One is inclined to believe that present day commercial tooth paste and mouth wash advertising governed a good many answers to these questions.

The answers to the question, "What is your understanding about pyorrhea?" make one wonder why we had so many conflicting and indefinite replies. My opinion would be that prob-

ably a large percentage of the 1285 persons replying have not experienced this disease; consequently they have little, if any, knowledge of this subject.

The question pertaining to deciduous dentition was especially interesting to me. There were 1185 replies to this question; of this number 20 per cent thought it unnecessary to care for children's teeth. If this same question were asked of the *general* public one would naturally conclude that this percentage would be higher. Thus I am led to the conclusion that the dental profession has at least partly failed to convince the dental public of the absolute necessity of caring for deciduous dentition.

I believe that a great deal of valuable information has been obtained by this survey. Basing their fundamental principles on this information the dental profession might well begin an extensive ethical dental educational campaign.—CARL BRASMER, D.D.S., Evanston, Illinois.

24. Let us not be too quick to judge or criticize our professional brethren or to think ill of our patients' intelligence by the facts disclosed in the survey. Were a similar questionnaire sent to clients by lawyers to determine their knowledge of general legal matters, we sincerely doubt whether their legal "I.Q." would be given as high a rating as that accorded to their dental consciousness.

How many of us know, for example, "What are the essentials for a valid contract?" "What is a tort?" "Under what circumstances can a habeas corpus be procured?" "What is meant by double jeopardy in law?" Could dentists who represent a plane of intellectual society in the upper brackets, answer these simple fundamental legal questions? Surely a layman knows even less about general systemic disorders. Let us not be too harsh with the public when we pause for a moment and remember that the

medical profession knows little about endocrinology, cause of cancer, control of virulent strains of streptococci, arthritis, vaso-motor rhinitis, and a host of other ills.

The survey is indeed indicative of a rather keen comprehension on the part of our public concerning the fundamentals of dentistry. The answers to the causes of tooth decay, pyorrhea and the relation of teeth to health are commendable. This reflects excellent educational work on the part of those various agencies who are constantly striving to bring dental knowledge to the public. For this we must give due recognition to our professional colleagues, to pedagogues in our school systems, and to public-spirited enterprises whose commercial interests have been given due mention.

Now that we have given praise unto Caesar for that which is Caesar's, our thoughts begin to explode with machine gun rapidity toward an indictment against the dental profession. "Would you like an injection of a local anesthetic while having a tooth drilled?" The mere asking of this question establishes the fact that this is not a routine of dental practice. Surely out of 1174 replies, the 680 who answered in the negative or in uncertain terms were not all to blame.

A large percentage of dentists are immediately concerned with panaceas which like the sorcerer's concoctions are supposed to perform miracles when applied to the tooth. Meanwhile, the promulgation of a public educational campaign sponsoring the use of procaine anesthesia or nitrous oxide analgesia would fall by the wayside. The "elders of our church" would hold up their hands in ecclesiastical fashion and with horror quietly proclaim, "unethical!"

Why does the public expect dental work to last for any specified length of time? The dentist's zealotry to sell a commodity instead of present-

(Continued on page 394)

\*These are a continuation from last month of the comments of the cooperating dentists on the study *What Twelve Hundred Patients Know About Dentistry*, the serial publication of which was begun in January of this year and concluded in the May issue.



## The Editor's Page

IN A STUDY among dental patients published in this magazine<sup>1</sup> the pertinent fact was shown that patients are ready to accept the roentgenographic examination as an essential to modern practice. More than 80 per cent of the 1200 patients who responded indicated their belief in the "x-ray" as a diagnostic aid. Many of these patients expressed the thought that an early diagnosis was to their advantage. The early discovery of proximal caries, beginning changes in the supporting bone, signs of root-end disturbances—these can first be demonstrated roentgenographically. In practice, preventive dentistry means early discovery and early treatment. Until specific preventives for dental disease are discovered, we must concentrate our attack on prompt recognition and immediate correction of dental lesions. To date this is the only kind of preventive dentistry that we can practice.

When the roentgenogram was first used in dentistry the emphasis was on the discovery of gross lesions at the root-end. Dentists then took roentgenograms of "suspicious teeth" and had their eyes focused almost exclusively for "abscesses" and "pus sacs." The mental concept of the function of the roentgenogram was almost as obscure as the vague pathologic terms used to describe the procedure. With the change in concept, we evaluate the roentgenogram as an objective means of recording the minor and major variants in the density of tissue. By recording in sharp contrasts the whole range of mouth tissue densities—from soft tissue to enamel—a satisfactory roentgenogram is produced. To show these contrasting densities without anatomic distortion is the objective of roentgenology.

It must be repeated that the roentgenogram does not show infection *per se*. A roentgenographic negative shows subtle or profound changes in the physical character of tissue—increase or decrease in density. It shows morphologic changes that may be the result of bacterial, chemical, biologic or other physical forces. The test of a good roentgenogram, therefore, is the accuracy with which it repre-

sents these contrasting densities. That is the end toward which all our efforts in the development of roentgenographic technique are directed.

One of the most competent technicians in roentgenography is Mr. Franklin W. McCormack of San Francisco. As early as 1920 he advocated a target distance of between 24 to 36 inches; but a large apparatus is used for this target distance, not a dental unit. At the same time other operators were advocating a target distance of between 12 to 20 inches. McCormack's insistence on increasing the target distance is based on the principle that the greater the target distance the more anatomically accurate and more sharply defined is the resulting image.

McCormack has also been in the forefront in developments in angulation. Heretofore we have been taught and we have followed the procedure of bisecting the angle made by the plane of the object (the tooth) and the plane of the film and directing the rays so that they will fall perpendicularly to this bisected plane. McCormack believes that by the use of this method the exact length of the tooth can seldom be reproduced. He describes a method that he calls "ideal": It consists in having the long axis of the film parallel to the long axis of the tooth, and in directing the rays at right angles to these parallel planes.

In a highly informative article, Donald W. McCormack, D.D.S.<sup>2</sup> (a son of Franklin McCormack) demonstrates that the principle of bisecting the angle can never produce a true image. In an upper molar, for example, the roots are of different lengths; the cemento-enamel junction of the buccal and lingual surfaces and the buccal and lingual cusps fall at different points on the film. Only by the use of the "ideal" method can the corrective relative lengths of these structures be shown. By decreasing the angle of projection as done in this new method the malar process need not be penetrated in exposures made of the upper molars. This will improve the quality of roentgenograms made of this area as well

<sup>1</sup>What Twelve Hundred Patients Know About Dentistry. A study conducted by the Editorial Staff of THE DENTAL DIGEST in cooperation with thirty-seven practicing dentists, and published in this magazine serially in January, February, March, April, and May, 1937.

<sup>2</sup>McCormack, D. W.: Dental Roentgenology: A Technical Procedure for Furthering the Advancement toward Anatomical Accuracy. J. California S. D. A. 13:89 (May-June) 1937.

as give a better idea of the correct sagittal relationship of the floor of the maxillary sinus to the roots of the teeth.

McCormack suggested this formula for a type of ray that will give maximum penetration and absorption: A lower kilovoltage peak, a

higher milliamperage, and an exposure time as long as possible.

It is to be hoped that able roentgenologists, such as the McCormacks, will develop a technique based on these same principles which may be used with dental x-ray units.

## A Modified Kingsley Splint

WILLIAM J. HOGAN, D. D. S.,\* Hartford, Connecticut

A YOUNG WOMAN, aged 23, sustained multiple injuries to the face, including a compound bilateral fracture of the upper jaw, in an automobile accident. The fracture extended through the roof of the mouth with severe displacement of the fragments inferiorly.

The clinical problem presented was to restore the fractured parts and to construct an appliance that would carry them upward and aid in immobilization against the base of the skull. A modified Kingsley splint was constructed, therefore, although immediate treatment was not attempted.

Ten days after the injury, the swelling had subsided, and modeling compound impressions were made of the jaws. A vulcanite splint made of gold dust rubber was constructed over the upper cast. Two chromium clips were embedded in the buccal surfaces of the vulcanite splint in the region of the upper molars. Into these metal clips removable wire extensions were fitted. These wire extensions were made from a coat hanger, because strong enough wire could not be obtained. The ends of these extensions were flattened in order to be fitted into the chromium clips. The extra-oral extensions to which the traction bandage would be fastened were left untouched.

The bandage was first made of

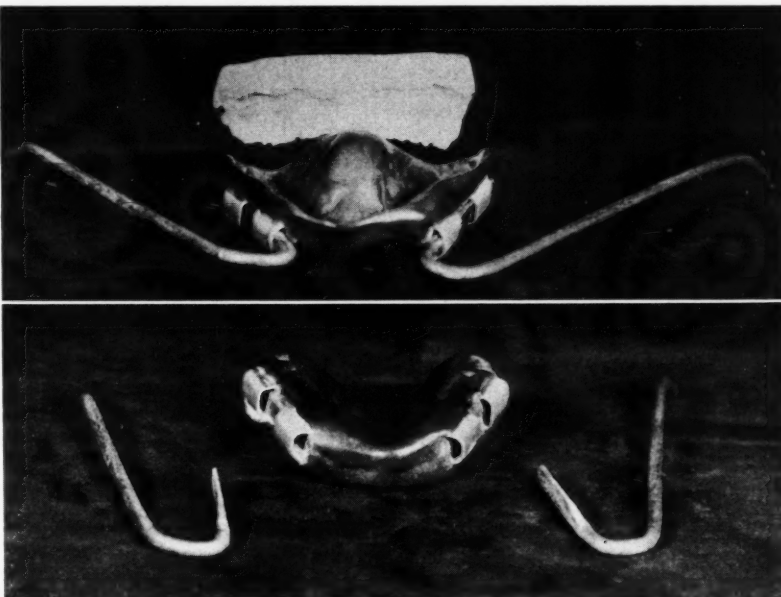


Fig. 1 (top)—The plaster cast of the teeth; the vulcanite splint; chromium clips in position, and wire extensions.

Fig. 2 (bottom)—Splint with bars removed from vulcanite denture. Note flattened ends of bars for insertion in chromium clips.

rubber dam. This was wrapped around the bars, placed over the head, and fastened again around the bars for traction. The patient found this to be uncomfortable; a gauze bandage was therefore substituted. The gauze bandage was wrapped around the forehead and over the vertex of the skull with a strip remaining on each

side to be fastened securely to the extension bars. The traction thus exerted by the bandage was upward and backward.

After fifty-seven days the patient was discharged from the hospital with the jaw fracture completely healed and the parts in perfect apposition.

1191 Farmington Avenue.

\*Deceased.

# Suggestions for the use of

## The Ryan Examination and Treatment Record

1. The Ryan Examination and Treatment Record may be had in pads of fifty charts each. These pads fit conveniently in a standard 9½ by 11½ inch loose-leaf notebook which may be purchased at a five-and-ten cent or variety store.

2. Alphabetical dividers may be made by using a ten cent package of plain white paper of the same size as the charts with holes punched at the same distances, and a fifteen cent box of alphabetical index tabs. The holes are reinforced.

3. It is a good plan to keep a blank sheet of paper between the charts to prevent possible smearing of crayon or pencil markings; but this is not essential.

4. A fresh pad of charts may be kept ready for use in back of the notebook of active records.

5. The various types of restorations and their location in a particular mouth are shown with the use of polychrome pencils—gray, for amalgam; deep yellow, for gold. White pencil does not show up very well; consequently, porcelain may be indicated with soft lead pencil outlines or cross-hatching.

6. Spaces provided beside the quadrants with numbers corresponding to the teeth permit special notations concerning each tooth. As treatment progresses the blue markings indicating needed dentistry are erased, and the nature, location, and date of placement of each new restoration are recorded. Additional clinical notations are made if necessary in the space provided for that purpose below the chart itself.

7. It is essential to be consistent in any system of symbols or markings developed. To insure consistency, it is well to have a key page in the front of the notebook.

8. The exact record of conditions found in the average patient's mouth at the original examination can be completed in fifteen or twenty minutes, and the time it takes to keep a chart up to date is negligible.

9. When a chart is completed the necessary data (name, address, telephone, reference, estimate, and terms) are typewritten in the spaces provided at the top of the record. The date of the original examination is also recorded in order that the treatment dates (as shown in the quadrants at the sides of the chart) will be recognized as subsequent to the date of the original examination.

10. Provision is made on the back of the chart for bookkeeping records. This is merely for the convenience of dentists who wish to keep all records together, but may be ignored by dentists who have a satisfactory book-keeping system which they need not and do not wish to discard. The Ryan Examination and Treatment Record may be employed as an additional or supplementary record to any established method of record-keeping dentists may have.

11. Although the Ryan Examination and Treatment Record was designed for the dentist's own convenience in his practice, the charts have been found to have a definite informative value in explaining conditions to patients. The charts are also particularly helpful in reporting dental conditions of patients to cooperating physicians.

### TYPES OF PENCILS

Yellow .....	Mongol No. 867
Gray .....	Mongol No. 819
Red .....	Mongol No. 866
Blue .....	Mongol No. 865
Yellow .....	Castell No. 40
Gray .....	Castell No. 57

Mongol pencils are made by Eberhard Faber; Castell by A. W. Faber.

### SUGGESTED SYMBOLS

Each dentist may develop his own system of symbols but the following specific markings have been found simple and adequate:

**Soft Lead Pencil**—(a) Porcelain fillings are indicated by a pencil outline.

(b) Porcelain jacket crowns and bridges are shown by cross-hatching with lead pencil across the corresponding tooth or teeth on the chart.

(c) Missing teeth are blocked out with a soft lead pencil.

(d) Abrasions are represented with soft lead pencil.

**Blue Pencil**—(a) Cavities are indicated with blue pencil.

(b) Advisable restorations are demonstrated with blue pencil.

**Red Pencil**—(a) A red line is used to indicate the presence of a root canal filling.

(b) A red outline shows the presence and position of an impacted tooth.

(c) Red pencil is used to represent pulp involvement.

(d) A red "X" is made across a tooth to indicate that its extraction has been advised.

(e) Pyorrhea pockets are represented in red along the crest of the alveolar ridge (and a notation is made at the bottom of the chart if extensive gingivitis is present).

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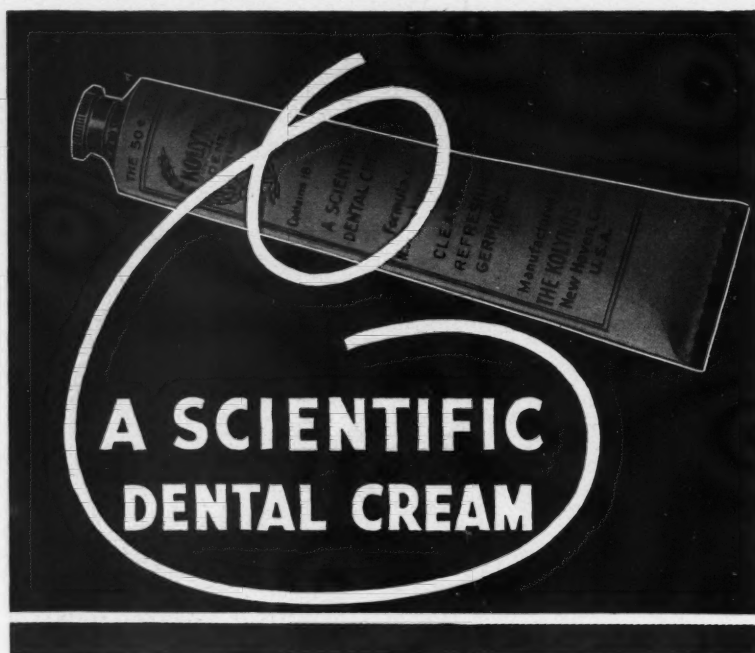
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**SQUIBB DENTAL CREAM  
SQUIBB TOOTH POWDER**



**M**ECCHANICAL cleansing agents for the teeth had been in use several years before Professor W. D. Miller, in 1881, gave the first scientific explanation of the relation of oral bacteria to tooth decay. Working on Miller's hypothesis—oral bacteria cause tooth decay—Doctor N. S. Jenkins, after eighteen years of experimentation and clinical observation, developed the KOLYNOS formula. He described its properties to the American Dental Society of Europe in 1908.

Eminent scientists examined the KOLYNOS formula and confirmed Jenkins' report of its properties.

In the progress of science old methods have been discarded and new theories advanced but dental authorities in the United States and other countries have again confirmed the claims of Doctor Jenkins:—That KOLYNOS cleans and polishes the teeth without injury to the oral tissues. And that it kills mouth bacteria not only in test tubes *but in the human mouth.*

KOLYNOS is a Scientific Dental Cream.

**THE KOLYNOS COMPANY**  
NEW HAVEN, CONN.

## Comments of Participating Dentists in Patient Study

(Continued from page 389)

ing service is responsible for the patient's attitude.

Physicians do not guarantee any of their services. We who practice a highly specialized branch of medicine likewise ought never permit a patient to expect any guarantee or to anticipate a definite life for any restoration that is placed in his mouth. Considerable missionary work is necessary to dispel the thought from the minds of patients that dentistry is something outside the pale of human error and that when something goes wrong it is always the dentist's fault, never that of bacteria; never their own neglect, and never due to chemical and physical forces.

We again must point an accusing finger at organized dentistry for the lack of existing education.

We are all doing a great piece of work. Yes, that is true but are we doing enough of it? The survey indeed clearly demonstrates the prompt necessity for organized effort along dental educational lines. This is not so much for the purpose of teaching oral hygiene and preventive dentistry, but to give the public sufficient information to enable them to judge which dentists have qualified themselves to practice with the full opportunities offered by modern scientific dentistry and which dentists plod along using patients as guinea pigs for Pandoric treatments.

Patients are asked, "Do you think of an extraction of a tooth in the same way as you do an operation?"

How many dentists honestly feel that an extraction is an operation?

How many physicians actually consider an extraction important enough to be called an operation of surgery?

The dentist who performs extractions for fifty cents or a dollar, the specialist who extracts the first tooth for three dollars and each one thereafter at one dollar each, and the dentist who throws in "extractions free" with "plates," are all responsible for the general public opinion that an extraction of a tooth is not to be classed as surgery.

"WHAT TWELVE HUNDRED PATIENTS

KNOW ABOUT DENTISTRY" is indeed a unique contribution to the statistics of dentistry. However, if it shall be relegated to the archives of antiquity and not evaluated and used for its distinctive purpose by organized dentistry, we shall have failed in our obligation to society. My congratulations to Doctor Ryan for this "brain child" which is without question one of the most valuable contributions to dentistry made in recent years.—S. J. BREGSTEIN, D.D.S., Brooklyn, New York.

25. Only certain items in your 1200 patients survey will be discussed.

1. X-ray values: Statistics can stand clarification. Although the public may believe, it does not so readily accept. The reason is financial. If any man doubts this, let him offer gratuitous roentgenographic service. This applies to persons of means as well as to poor folks. Many of us now make a nominal charge for diagnosis and expect to profit on corrective service. This is not a proper way but is the only way we can be permitted to make better diagnoses. The public has been trained to think that many physicians charge more when medicine is given and that the garage man charges only for work and not for brains. We ought to teach our patients to buy our brains, assisted by roentgenograms, but, meanwhile, we must give them the service they seek, i. e., fillings, plates (not dentures), bridges, and so on. After some more years of the use of roentgenograms, we may lead them to pay for bite-wings as well as periapical negatives.

2. Decay: Have we not unwisely colored our patients' ideas? Let us be more careful not to be carried away by temporary enthusiasms, whether they are vitamins, roughage, brushes, or what-have-you.

3. Local anesthetics: In my practice local anesthetics would be more acceptable if no charge were made. In many practices, they would be more acceptable if each dentist would provide himself with an eighteen power magnifying glass (cost \$1.50) and examine his needle points before use. Also, we should call attention to the diminished systemic effects of the new alkalized solutions.

4. Pyorrhea: Conversation with a group of better dentists at dinner last week leads to the belief that our first trouble is that we, ourselves, know too little about the subject. Let a dentist

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☐ Graphic Chart indicating the safety of Nitrous Oxid Analgesia and the position of Analgesia as related to anesthesia.

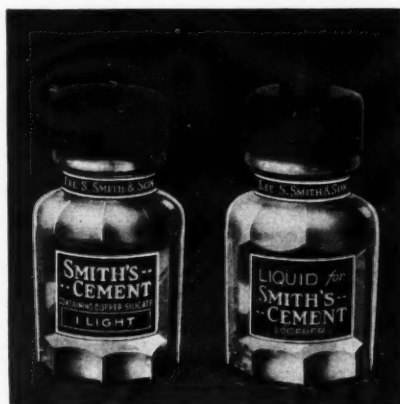
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McKesson Analgesia is one of the most significant developments in modern dentistry. The McKesson Euthesor has made dentistry inviting to thousands of people who heretofore looked upon a dental treatment as a nerve-racking ordeal.

Dentists who have installed McKesson analgesia equipment have seen its value reflected in practice growth, loyal patients and easier operating conditions.

The Euthesor is scientifically designed and precision built. It is the result of years of experience in the design and manufacture of gas dispensing apparatus. It embodies the most modern developments in positive control and automatic safety.

You are doubly insured when you invest in a Euthesor. For a nominal additional amount you can at any time convert the Euthesor into a machine for complete anesthesia.

The coupon will place you under no obligation. Return it and get complete information on the Euthesor.

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Please send me literature on McKesson equipment.

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join a study club on the subject and his patients will improve. The next factor for observation is this: patients purchase more readily what they see. The *Digest* pyorrhea pictures help me very much. Let us have a new series on pyorrhea showing even more. Calculus is only one factor. Let us have pictures of childhood causes of manhood pyorrhea, of the effects of metallic poisons, traumatic occlusion, and so on.

5. How long does dental work last? Our patients receive their ideas from us. Their faults are our faults. How we smile when the old gentleman returns to show us a filling we put in twenty years ago! Do we compliment him on the health and care that made long usefulness possible? Or do we figuratively pat ourselves on the back?

6. Extraction a surgical operation: This attitude is clearly the result of individual dentist's leadership plus the commonness of the operation. We cannot reduce its commonness: let us show, by pictures, charts, words, that "there are teeth and there are teeth."

7. Deciduous teeth: Dentists' patients believe in caring for deciduous teeth but do not practice their precept. The same rule applies to eyes, posture, going to bed at night. We have made the situation worse by letting people think that "it's only a baby tooth." I must confess to only a small degree of success but I am doing my best to improve matters. Success will not come to us individually until a large percentage of dentists gives more attention to the subject.

8. Orthodontia: 594 for orthodontia; 4, cost prohibitive. In my territory, cost is the first objection. The second cause is that too few general practitioners take cases. If more of us take the easy cases, many hard cases will be prevented and the public will become conditioned to go to specialists with them. I have visited a number of beautiful offices which had no orthodontic casts. The mere presence of a glass case of this kind will do much. Let folks know that orthodontia is done by general practitioners for just folks and all will be benefited, including the specialists.

Conclusion: Dentists have a man size job on their hands. The job is not impossible of attainment. Let us apply ourselves.—AMOS G. STIKER, D.D.S., Addison, New York.

26. This interesting survey, WHAT

# ?

## The Eternal QUESTION

↓  
**Will the Patient  
be Satisfied?**

New dentures are not like a surgical operation—soon over and forgotten. The patient uses, and is conscious of, his artificial teeth day in, day out, year after year. If they trouble him he doesn't forget it; if they satisfy him he doesn't forget it, either!

If you have never used Dr. Kelly's Impression Paste for perfecting your adaptation, you cannot know what it will do toward quickly establishing the patient's confidence and insuring fit and function of the final dentures. Dealers everywhere have it, fully guaranteed. Kelly-Burroughs Laboratory, Inc., 143 N. Wabash Ave., Chicago, Ill.

Two forms . . . powder-and-liquid or ready-mixed in tubes, \$2.50 (only a few cents an impression)



# KELLY'S PASTE



**THE TOOTH MASTER,**  
Painting by Jan Steen, 1626-  
1679. The instrument table  
consists of a barrel with a  
board set upon it. The patient  
is well tied. Hague Museum.

## FEAR OF DENTAL PAIN

and the actual discomfort of  
instrumentation are fre-  
quently allayed by the pre-  
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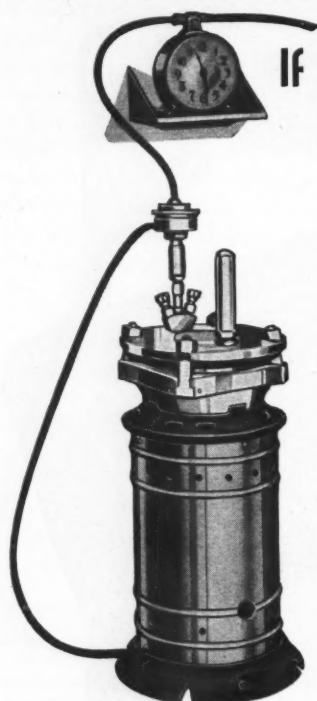


## You Save A Dollar Now On Every Package . . .

**MEET** the new package  
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It provides a larger quantity of both powder and liquid and a valuable price reduction. The new bottle of Ames Copper Cement powder contains one ounce. The new bottle of liquid contains 14 CC and is equipped with the improved Ames dropper-fitted cap. Both are packaged in a neat carton and priced at \$3.00. This package contains twice as much powder and liquid as you have been getting for \$2.00, and in more convenient and handy containers. It's the same unmatched Ames quality. Ask your dealer or his salesman for Ames Copper Cement in the new package. The W. V-B. Ames Company, Fremont, Ohio.

# AMES DENTAL CEMENTS



If YOU are a  
**VERY busy man—**

this new 11-inch Heavy Duty Vulcanizer is the machine for you.

It will hold three large flasks in a new Buffalo 3-case Spring Compress, and thus will handle 50% more work than the usual dental vulcanizer.

The pot is eleven inches deep and five and a quarter inches inside diameter.

These machines, and all Buffalo Dental Vulcanizers, are now equipped with Binoc Thermometers.

If the 11-inch Heavy Duty Vulcanizer is too large for your purpose, you may want to know about the other Buffalo Dental Vulcanizers. The coupon on Page 405 will bring you a copy of our new Vulcanizer Folder.

**BUFFALO DENTAL MFG. CO., Buffalo, N. Y.**

**TWELVE HUNDRED PATIENTS KNOW ABOUT DENTISTRY**, reflects as a mirror the dentist of today. From my observation of dentists over a period of twenty-five years, a marked transition has taken place in the attitude of the dentist toward the patient. The general interest that has been developed in dental economics has brought the younger men at least to the conclusion that, although the patient may not be always right, he has intelligence and a desire to learn and is entitled to know the health value of dentistry. He has also come to realize that as a practice-builder, the dissemination of dental instruction is a valuable aid. This is progress.

The knowledge evidenced by these twelve hundred patients bears out the fact that a majority have had at least some of this type of instruction; however, from their answers it would appear that the average dentist has almost a set formula for telling the story of dentistry. With a little thought, this elementary instruction can be changed to increase the lay knowledge and to create a better appreciation of its value as a health measure.

The average patient will easily understand, for example, the meaning of traumatic occlusion, as well as the necessity for its correction; the importance of functional occlusion and balance in restorative work; the necessity of points of contact in fillings; the story of malocclusion and its correction, and so on. Though many dentists consider an instruction on diet of paramount importance, these other phases are just as essential and fully as comprehensive as a lengthy discussion on vitamins.

The survey shows evidence that the average patient has little appreciation for the specialties of dentistry and cannot have until he is taught. The numerous comments on the expense of dentistry would lead one to believe that where dentists have given their patients some knowledge of the health factor of dentistry, little or no stress has been placed on the dollar-and-cents value of this health service. It is definitely up to the dentist to acquire a keener realization of the need of this more advanced instruction for his patient.

It is pleasing to note that the advertising of dentifrice concerns has not materially affected the horse sense of the average patient. Certainly all in-





## *"Will it taste good, Doctor?"*

Old hats are fun, but new, pleasant tasting medication is important for young patients. When you wish to cause prompt alkalinization, prescribe . . .

### **BiSoDoL Mints**

They may be chewed, or swallowed whole with water.

BiSoDoL Mints or BiSoDoL Powder are useful for neutralizing acidity and maintaining alkali balance.

*Free Samples on Request.*

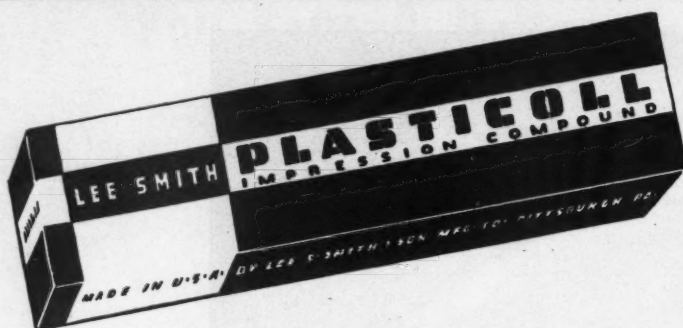


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**The BiSoDoL CO., New Haven, Conn.**

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Thousands of Plasticoll syringes and thousands of Plasticoll water-cooled trays have been purchased by the profession. Now in response to many requests, we offer the Plasticoll heater to complete your equipment for handling the hydro-colloid materials.

The Plasticoll Heater solves the problem of preparing for a hydro-colloid impression. Twelve minutes after the syringe is placed in the heater and the current turned on the Plasticoll is ready for use. If there should be some delay, a workable temperature is maintained for at least half an hour.

There is a special combination offer on the heater in conjunction with Plasticoll which is priced right. The coupon on page 405 will bring you full details.

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You can't expect a namby-pamby sort of stone to deliver the goods. It takes a tough stone, one that will stand the wear and tear of constant grinding. Siltex Dentstones are that kind, that's why your fellow dentists tell you

*No dentist ever regrets using*  
**SILTEX DENTSTONES**  
The fast, cool cutting, long wearing mounted points

struction should be from a professional source, not through lay advertising.

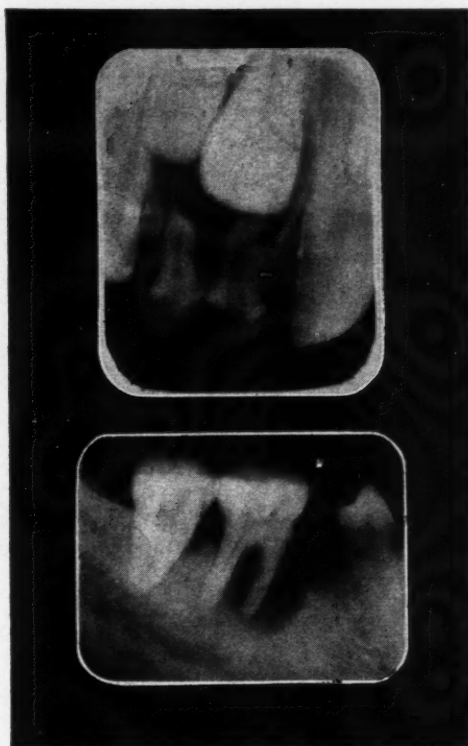
Taking this report as a cross section of the American public, it would appear that we are definitely on the right track for the advancement of our profession; however, it is squarely up to the dentist to take advantage of the opportunity offered to increase the lay knowledge as to the full value of dental services. We owe this to our patients and the ultimate result will be a full measure of satisfaction for all concerned.

Let's inaugurate a "Dental Instruction Week." Think what thirty or forty thousand dental missionaries could do by intelligent instruction during this seven day period.—JOHN J. FITZ-GIBBON, D.D.S., Holyoke, Massachusetts.

27. Permit me to say that the study and the analysis based on the study which you have just completed is, in my opinion, one of the most valuable contributions made to dentistry in recent years. Every questionnaire filled out by my patients was done so entirely on their own. It may surprise you to know that most of the patients furnished the desired information willingly and invariably requested that they be informed of the final outcome of this survey.

Let me assure you of my willingness to cooperate in any future study of this type.—STANLEY D. TYLMAN, D.D.S., Chicago.

28. Considering the twelve questions asked, and the geographic distribution of these answers, this study portrays a most accurate panoramic picture of the average patient's conception of dentistry as practiced today. There are a few lessons to be learned and a lot of food for thought in this study. One can readily see that the patient's education and knowledge of some phases of dentistry is better than others. Dentists should, therefore, as a group and individually, think enough of our patients' attitudes, respect and knowledge for our profession, ourselves, and the services rendered them, to educate every patient as much as would be practicable. Of course, every dentist has some patients that he would merely be wasting his time to attempt to educate, and one cannot spend too much time just talking to the patient; however,



*Children Are Frequently Victims of*

## FOCAL INFECTION

Grave and sometimes irremediable conditions occur in children with focal infection, according to Thoma, (*Practitioners Library of Medicine and Surgery*), such as endocarditis, nephritis, and acute inflammatory conditions of the joints. He cites the teeth as major foci.

Sal Hepatica used during the treatment of oral foci does two helpful things. It helps to gently rid the intestinal tract of harmful waste and to raise resistance against general infection by combating excessive acidity.

Sal Hepatica stimulates an increased rate of bile flow from the liver into the gall bladder and thence, into the duodenum.

### *Sal Hepatica*

**FLUSHES THE INTESTINAL TRACT AND AIDS NATURE  
TO COMBAT ACIDITY**

The action of Sal Hepatica resembles that of the most famous natural aperient waters. Effervescent and sparkling is the palatable drink it gives . . . Dentists are invited to send for samples and literature

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After 100 casting operations with Cristobalite Investment, the darkened brass ring's measurements remain precisely the same as those of its shiny new twin.

**CASTING** rings can become an important factor in Dental costs. But not with Kerr Cristobalite Investment! For this is the Investment that is made without the addition of destructive chlorides. With Kerr Cristobalite, casting rings of brass or steel last indefinitely—for hundreds of casting operations.

Dentists who know standardize on Cristobalite because of its inherent superiority in producing castings that fit. Their savings on casting rings compensate many times over for any small price differential.

In the long run, Kerr Cristobalite Investment—Inlay or Model—always **PAYS**.

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**THE DENTAL DIGEST**

1005 Liberty Avenue

Pittsburgh, Pa.

the dentist should realize that when a patient walks into his office that he or she is dental conscious, and is in a receptive mood for education, especially for the first few appointments, and that this educational program can be carried on along with the diagnosis and as the services progress. Rather than tell the funniest joke, talk golf, hunting or fishing, education in terms of dentistry might be attempted. There can be a place for some of this talk but never so much that the patient will become intimate and forget you are his dentist, and a most capable one, and that dentistry and their knowledge of its different phases and its application to them is most important. And last but not least the dental assistant can be helpful in educating the patient.—WILLARD T. FARMER, D.D.S., Birmingham, Alabama.

## DENTAL MEETING

### Dates

Ohio State Dental Society, seventy-second annual meeting, Mezzanine Floor of the Neil House, Columbus, November 8-10.

Greater New York Dental Meeting, thirteenth annual meeting, Hotel Pennsylvania, New York City, December 6-10.

Northern Illinois Dental Society, fifty-first annual meeting, La Salle, September 29-30.

Montreal Dental Club, thirteenth annual Fall clinic, Mount Royal Hotel, September 22-24.